Mildred F. Sawyer Library
Automated Information Technologies Plan
July 1, 2008 - June 30, 2010

Revised: 2008 June 26

INTRODUCTION

This is the Mildred F. Sawyer Library's fifth technology plan. Plans have been developed on a two-year cycle since 2000.

The Mildred F. Sawyer Library continues its transition from a print information caretaker to that of an active information mediator, increasing opportunities concerning access and delivery of information in electronic formats. This transition is based upon the appropriate application of automated information technologies, and critical/evaluative collection development. In this effort, the Sawyer Library applies automated information technologies as a means to an end. The identified ends include access to the resources needed by the University community to meet their information needs, and increased user self-sufficiency and skills and fluency concerning the information seeking, retrieval and evaluation processes. The Sawyer Library must contribute to meeting student and faculty learning needs as well as to their information needs.

Despite the advances toward the virtual library, the Sawyer Library remains a physical place. It is a service organization – we help people find information. It is an educational organization – we teach users how to find, retrieve and critically evaluate information. It is a social organization -- we provide space and an environment (such as light and furniture, along with information resources) for the exchange of ideas and scholarly debate.

This document serves as a guide detailing how the Sawyer Library plans to apply automated information technologies during the next two fiscal years.

USER NEEDS / RATIONALE

Students and faculty want electronic resources such as databases and e-books to meet their course and personal needs; they expect these resources to be available and accessible via the Web 24 hours a day, seven days a week, and from any place on the planet. Additionally, they expect all electronic resources content to be presented in full text.

Users want mobile, untethered access using wireless networking capabilities. Ideally, one portable device would handle all of a student's curriculum-based information needs as well as their other communication needs. It is generally envisioned that a Web-based "smart" phone will be the device of choice, converging user needs for access to the information and communication digital world with mobility in a cost-effective manner. Apple's iPhone is one example of this type of device.

Unfortunately, the information richness of a 3.5" screen is not suited for all information and communication content, such as journal articles with graphics and the student/faculty desire to

make notes to accompany the academic content. As a result, there remains a need for a variety of devices to access information resources. In the Sawyer Library, that includes desktop computer workstations for research and laptops.

The laptops loaned by the Sawyer Library are borrowed almost as often as books from the circulating collection and reserve materials -- combined. While laptop prices have come down and laptops are outselling desktop computers, students would rather borrow a laptop from the Sawyer Library than use their personal laptops for a variety of reasons. However, the library's full and direct cost to acquire, manage, store, loan, and repair these laptops is high, and not totally quantified. We look forward to the day when the smart phone is ubiquitous and versatile enough, or the students' transport of their own laptop is no longer a perceived burden, so that we no longer have to loan laptops.

Students also want the library to lend them other technologies of various types. On the productivity side, we lend USB flash drives to students so that they may backup their work since it cannot be stored to hard drives on library workstations. Headphones are also loaned although many carry a personal MP3 player and headphones. We lend portable DVD playback units users may view DVDs on our laptops, research workstations and in the 20 group study rooms. Students have also requested that we lend camcorders, digital cameras, graphics calculators, flatbed scanners, digital still cameras, and MP3 players for inside library use as well as long term loans outside of the library. Student and faculty requests for the laptops to leave the library arise frequently.

Simply stated, although complex in planning and execution, the information technologies applied by the Sawyer Library must align with the University's mission and support learning outcomes.

RELATIONSHIP OF THIS DOCUMENT TO THE LIBRARY'S CURRENT STRATEGIC PLAN

"Focus on Library Users"

> As an academic support organization, we provide and enhance library and information services to our users through the library's infrastructure: the collections, staff, facility and technologies.

Objectives 1.5 and 1.6 from the library's strategic plan are directed towards technology as infrastructure and a means to an end. Objective 1.5 has the library employing "technologies and methodologies that support and increase user productivity and self-sufficiency" including improving access and retrieval of library-provided resources via the Web, and meeting the need for user mobility by ensuring wireless connectivity availability throughout the library. Objective 1.6 casts the management of technology as an investment by enhancing the integrated library system, finding a means to transfer online and in real-time the necessary information from student records in the Registrar's database to the patron database on the integrated library system, and improving the efficiency and effectiveness of the Sawyer Library's University-based Web site (e.g., navigation, appearance, and content).

The library has primarily used operating funds to support additions of, and improvements in, automated information technologies. It is expected that the annual operating budget will provide all of the funds necessary to maintain and improve services applying automated information technologies during the life of this plan.

Mission Statement

The Mildred F. Sawyer Library contributes to the overall mission of Suffolk University by making available, and providing access to, informational resources and qualified staff to support the teaching, learning and research needs of the students, faculty and staff in The College of Arts and Sciences and the Sawyer Business School. It participates in the University's effort to teach students the skills they need to find and evaluate information, and to use it ethically; to learn rather than amass information; and to turn information into knowledge. The Sawyer Library also provides a place for students and faculty to read and study, to gather and deliberate, and to question, challenge and support one another. It is a goal that all members of the University community become independent, self-sufficient, self-directed and ethical information users and lifelong learners.

Automated Technologies Vision

The Sawyer Library serves as an information gateway by providing an intuitive portal, ensuring straightforward access for the university community, from anywhere at anytime, to information owned or licensed by the library, or available from any other source.

KEY CHALLENGES

The Sawyer Library faces several challenges:

Information Resources

Students expect the library to provide access to all curricula-required resources, in electronic formats, and expect availability of full text content. Faculty want curricula-required electronic resources as well as additional resources to support their research efforts. Both faculty and students want information in image and audio formats in addition to text-based formats.

The challenges center on budget and implementation. The availability of new databases, and the content expansion of existing databases, occurs throughout the year while our budget process is annual. There may be a significant time delay, up to 18 months, from the time a faculty member requests a new electronic resource, important to their students and their own research, and when we are able to build it into the budget process. Second, the implementation of new databases takes considerable staff time which is invisible to the students and faculty. Database content and use must be evaluated; if it is chosen, its price and other contract terms must be negotiated. It must be loaded into the proxy server and tested before it can be mounted onto the library's Web pages. It must be managed and maintained, and must be fixed when not working which involves staff contact with the information provider and providing detailed technical specifications concerning the problem. Staff must be knowledgeable about the database so as to provide formal and informal assistance to database users.

Additionally, there are general perceptions that must be handled daily. Because of their use of web search engines, students think every piece of information is available in electronic form, and have no understanding either of publisher/author constraints on format, or of copyright restrictions on digitization. This lack of understanding leads to misperceptions of lack of willingness to help by library staff.

Information and Productivity Services

Over the past ten years, the Sawyer Library has made every effort to acquire and maintain information technologies and services supporting student productivity. In May 2006, the Sawyer Library relocated to new space at 73 Tremont Street. Almost every seat has close access to a wired network jack and an electrical outlet; a wireless network was implemented which enables laptop access from any seat in the library. The library continues to purchase and loan laptops installed with productivity software as well as enable loaned and personal laptops with access to six networked no-fee printers.

While supporting student productivity has never been the Sawyer Library's primary mission, it has become part of our de facto mission, because of the number of hours we are open, the availability of knowledgeable staff and our commitment to providing and maintaining workstations which are consistently operational from one user to the next.

An Information Commons

Many academic libraries provide an information commons. This is a large space with hundreds of computers, reference staff available to answer information questions and technical support personnel on hand to fix hardware and software problems on demand. The Sawyer library does not have the physical space for hundreds of computers. We do make as many computers available as possible, both fixed and laptops, and have reference staff who answer information questions. Both reference and public services staff provide help with hardware and software problems, but the library does not have specialists dedicated to technical support.

Instruction Services

The Sawyer Library provides instruction concerning use of information resources and services. We must expand the number of always-available, Web-based, self-paced instructional modules for students in a multiplicity of audio and visual formats.

Integrated Library System

The integrated library system is shared with the Moakley Law Library and is designed to be the portal to most, if not all, Sawyer Library owned and licensed information resources and services. It also provides essential staff functionality for circulation, acquisitions and serials management. There are difficulties with the system that need to be addressed or we need to consider replacing it.

The user database needs to be updated as often as possible. Ideally additions, deletions and changes would be online in real time. At this time, because of the inability of the University's Datatel system and our ILS to communicate directly, uploads of student records can only be done in batch mode. A planned automated weekly delivery of student records has been held up by programming requirements in the University IT department. When implemented it would go a

long way toward increasing the timeliness of the updating process. At this time, it not possible to download accurate records for faculty and staff from the Datatel system. The only accurate records are in the University's payroll system. These have been used to manually update the patron database.

Additionally, the libraries continuously improve the capabilities and functionalities of the ILS through acquisition and enabling of additional modules to meet the vision of providing community users with a single straight-forward information portal. Students are familiar with and like the single search box interface of Google and are confused by the multiplicity of databases we provide. Because the resources we provide through our databases is more scholarly and reliable than what the students may encounter on Google, it is important to provide them with a means to search for information by a method they will find easy and reliable. The federated search module we purchased from our ILS vendor has not met our expectations and has not been promoted by library staff or heavily used by users. We will be implementing an improved version during the 2008 summer months, and while it may work better than the version it replaces, it does not provide the relevancy algorithm of Google that students rely on.

The Innovative system is housed at the Law Library and we are dependent upon Law Library staff for assistance in resolving problems that arise in the Innovative system. We keep lines of communication open, but their priorities and use of the system are not the same as ours. This can lead to frustration when there are delays in implementing changes we would like.

It is time to move away from the Innovative Interfaces system and to seek another solution. That may well involve migrating from a shared proprietary system to a standalone open source solution, or to another cooperative-based system, preferably open source.

Equipment Management

The Sawyer Library spends considerable time maintaining its more than 130 public and staff workstations (more than 140 planned by the end of calendar 2008), and their peripherals. Maintenance includes diagnosing problems, re-booting workstations, resolving printer problems as well as changing toner cartridges and adding paper to the trays, updating application and productivity software, imaging hard drives to reduce the time necessary to rebuild identical workstations, and "locking down" and otherwise securing configurations so as to enable its timely successive use without staff intervention to examine and/or reset the workstation for the next user.

We replace out-of-warranty broken workstations with workstations from the spares pool if appropriate stock is available. Broken, out-of-warranty workstations are discarded rather than repaired at a cost.

Staff

Library staff depend upon automated technologies to do almost every aspect of their job. As the jobs have become more complicated and Web-based, staff need appropriately-configured workstations to handle the multitasking required by their operational procedures.

As all academic libraries have undergone change as technology progresses, the need for specialized staff to address technology issues has increased. The Sawyer Library is, for the most part, self-supportive. Other than the provision of Internet access, ITS provides little direct day-to-day support. The library staff maintain and fix workstations and laptops, arrange for repairs as necessary, install and update software, and manage a multiplicity of technology from laptops to video conferencing systems. We are involved in this effort so as to provide support at point and time of need rather than waiting for others to resolve immediate problems. The library has a need for properly-trained, internal full time permanent staff to be in the library during peak and near-peak usage times to address technical problems.

Additionally, nearly half of the non-personnel operating budget is allocated to subscription databases. The effort concerning databases is complex; it includes working closely with the various library vendors and consortia to gain the most affordable cost, negotiating contracts, ordering, setting up the database internally for use, cataloging, monitoring its availability and resolving problems if there are availability and accessibility problems, budgeting, gathering usage and other statistical measures, evaluating effectiveness, reporting, and preparing print and electronic help guides as well as demonstrating its use to faculty and students. As the number of databases deployed has increased, we increasingly need a full time professional staff person to manage this effort.

Library's Web Site

The library's Web site is managed by University Web Services. The content of our hundreds of pages are maintained and updated by Library staff on an ongoing basis.

The capabilities of the Web site are very limiting. Updates only occur once a day rather than instantaneously, thereby voiding one of the advantages of a Web site. Application of media is also limiting. For example, it is difficult to embed Flash-based tutorials into a University Web page or to display an interactive image map.

Public Relations

The Sawyer Library has increased its public relations efforts through the blog which was created and is diligently updated by the Reference staff. The blog has effectively replaced the library's ineffective electronic newsletter.

Implementing Change

Technology has empowered the individual since the first personal computers became available in the late 1970s. The ubiquitous availability of the Web and its always-emerging tools has hastened the pace of change in information services.

We must be careful not to introduce and support new applications until we know how well they will meet identified user needs and before we establish how to evaluate these applications so that we know their efficacy. The Library must take care in which tools are adopted, or even which tools it reviews and pilots. We are neither sufficiently staffed nor skilled to be able to identify the need, find a tool(s), test, evaluate and then release and maintain these tools, especially if the result is that no one will use them.

The pace of change has accelerated dramatically. We have been early adopters of successful technologies such as e-books, wireless, and loaning laptops. We have adopted others such as YouTube and blogging when they proved their worth. We have resisted others such as Second Life and Facebook because we did not see an enduring need for them. We will continue to review, evaluate and apply tools that we feel are effective and efficient and not just the latest fad.

CHANGES AND ADJUSTMENTS MADE SINCE 2006

The Sawyer Library relocated to 73 Tremont Street in May 2006. Since our relocation, we have made five changes in our technology deployments. First, Suffolk e-mail is now allowed on the 17 research desktop workstations. E-mail had been blocked, and non-Suffolk accounts still are. All e-mail sites are available on the loaned laptops and our five OPAC workstations. However, because Suffolk e-mail is used for class and student/faculty interaction we revised this policy and now allow access to Suffolk e-mail on the research desktops.

Second, we enabled Microsoft Office "readers" on the research desktops. Therefore, a student can read and print Microsoft Office documents (Word, Excel and PowerPoint), but cannot edit the document. This availability provides students with additional opportunities to print course assignments, syllabi and other course-related documents more readily.

Third, we enabled the five OPAC workstations to access the general Internet. Previously, these five OPAC workstations could only access the online catalog. Now, they can access any Web page. However, these five workstations are not connected to printers, and do not have the Office suite installed, but do have the Microsoft Office "readers" on each.

Fourth, we had planned on 36 laptops for loan when we initially relocated in 2006. That number has grown to 50, and in the 2008-2009 academic year, it will increase to 55. However, we could have 100 laptops and still not meet the "prime-time" demand.

Fifth, we replaced the standalone CD-ROM research workstation with a networked "NESAD and CD-ROM" Windows-based desktop and specialized printer in May 2008.

PRINCIPLES OF APPLYING AUTOMATION TO INFORMATION RESOURCES AND SERVICES

The Sawyer Library applies automated information technologies to provide and support information resources and services as stated in the Mission Statement and the current Strategic Plan according to the following principles:

<u>Concerning Information Resources and Services</u>

- electronic access to remote information resources should supplement but not substitute for local acquisition of materials.
- we purchase/lease only those electronic information resources that will support the curriculum. If we commit to providing availability or access of an information resource, we will make every effort to keep the resource from year to year. However, leases for little-used resources will be terminated.

- information resources and the information itself should be provided without per use or per item fees to the user. However, if costs are not supported fully or in part by the operating budget, the difference in costs may be passed on to the user.
- we value information content over technology tools; we value quality content above all.

Concerning Access to Information Resources and Services

- electronic library resources and services should be broadly accessible; electronic information services should be available to the user from points inside and outside the library building as many hours a day as possible, as many days a year as possible.
- to ensure availability of functionality, we make every effort to maintain the equipment we provide, replacing equipment we cannot fix as soon as possible (in minutes rather than hours, hours rather than days; a day rather than a week, etc.).
- we prefer to make resources available through the World Wide Web.
- we prefer to offer all of our Web-based content resources to our users remotely.
- we will use a proxy server to authenticate our remote users as legitimate members of the Suffolk University community.

Concerning Management of Information Technology

- adherence to intellectual property laws, contracts and licenses will not be compromised.
- the technology applied should employ standards and protocols common in local, regional, national and international environments (TCP/IP; ASCII; MARC; etc.).
- the priority for acquiring automated information technologies for use by library staff should be based upon improvement of service to the primary clientele (the more directly the technology would benefit the user, the higher the priority).
- the application of automated technologies must foster user or staff self-sufficiency and productivity.
- the benefit from application of automated information technologies must at least equal the costs of application.
- the financial basis of the continuing operation of any applied automated information technologies should depend upon general operating funds rather than income from grants, endowments or gifts.

PROGRESS ACHIEVED
FY2006 - FY2008

Library Instruction

- become familiar with the technology in the Library's new instruction room at 73 Tremont
  - for example, videotaping library staff teaching for later student access via the library's Web site
  + Progress: the technology is familiar. Staff teaching has not been taped.
- increase understanding and deployment of Camtasia studio software (or, Visual Communicator; Captivate; etc.) to record the computer screen, record audio, and provide a video stream from a webcam to improve Web-based tutorial presentation and content
  + Progress: met using Camtasia Studio for screen recording; have not used a webcam.

Student Learning

- update existing information skills modules, and create additional modules
  + Progress: met
- increase student awareness and use of Google Scholar and other similar search engine products
  + Progress: unknown. Google Scholar is available from the Library's home page. Student use has not been measured.
- deploy technology(ies) to measure learning outcomes
  + Progress: clicker technology deployed but infrequently used. No online quizzes have been deployed.
- leverage Blackboard as much as possible, such as for electronic reserve lists and quizzes
  + Progress: the reserves list are managed by faculty; library instructional online quizzes have not be created. Library staff do not have access to Blackboard.

Integrated Library System

- continue to acquire additional functionality and emphasize the ILS as an important entry point (portal) for course-related content
  + Progress: met, although the functionality is less than expected. For example, images of book covers have been added to the OPAC.
- ensure compatibility and integration between Blackboard and the library's Millennium system
  + Progress: not met. A contracted project was undertaken for a single sign-on from Blackboard to the Innovative system, but failed because the functionality was not as expected.

Implementation Management

- maintain the Library's computer technology replacement schedule (attached as an appendix)
  + Progress: mostly met; some adjustments made after relocating to 73 Tremont in May 2006.

Staff Productivity

To create a 24/7 knowledgebase that would allow staff, wherever they are located, to consult library policies, verify contact numbers (both on campus and at external vendors), and access important information (like logins for individual online journal access), both the Circulation and Reference staffs have created wikis. These facilitate the consistent application of library policies and even make it easier for library staff to assist users with research needs and resource access difficulties when they email us during hours when the library is closed.

Pilot Projects

Mobility -- students are mobile; what can we do to take advantage of this culture?

- monitor the expected progress of the Origami Ultra Mobile PCs replacing tablet PCs for instruction; create active, mobile and tactile tutorials
  + Progress: progress of these devices monitored. The tutorials were created, but failed to be effective on small screens. The "smart phone" seems to be the device to monitor.

Delivery of Content

- use of mobile devices such as smart cell phones and MP3 players to deliver information skills tutorials, library orientation, and course content (e.g., lectures)

    - explore the use of iTunes to distribute content
    - monitor the evolving MP4 standards
    + Progress: partially met. At end of FY2008, the University is adopting iTunes University as its desired audio-video delivery platform. The Library uses Camtasia Studio to create Web-based instruction modules.
- monitor publishing on demand models
    + Progress: POD progress monitored.
- decide if the Atiz BookDrive would help with the conversion of print to electronic formats
    + Progress: determined to be too pricy and labor intensive for the Library to deploy.
- review RSS and deploy if deemed useful
    + Progress: partially met. Reference created and maintains a public blog which has RSS capability.
- explore the use of hand-held video cameras to record orientation and "how to" content
    - for example, the use of 360 degree video for orientation
    + Progress: not met.

Faculty Productivity

- help faculty leverage technology such as Camtasia; Blackboard; Web cameras
- help faculty manage copyright content via persistent URLs
    + Progress: partially met. Faculty received live training using Blackboard to mount electronic reading lists using PURLs. Providing faculty with Camtasia and Web cameras has become the domain of academic computing services.
- explore the creation of a digital institutional repository of faculty work and/or publications
    + Progress: explored. However, there does not seem to be a faculty groundswell for an institutional repository at this time.

STRATEGIC DIRECTIONS
JULY 1, 2008 - JUNE 30, 2010

(What We Will Do / Like to Do in the Next Two Years)

User Productivity

- we will migrate from Microsoft Office 2003 to Microsoft Office 2007 on the laptops and staff workstations
- we will continue to deploy Windows XP as an OS for as long as possible instead of migrating to Vista because of the numerous reported problems with the Vista OS
- we will increase the number of OPACs from 5 to 8 and maintain the enabling of access to the general Web
- we will increase the number of loaned laptops from 50 to 55
- we will replace the two current standalone printer desktops with two desktops which occupy less of a horizontal footprint
- because of the University's adoption of Apple's iTunes University, we would like to deploy an iMac to facilitate students' access to iTunes
- we would like to lend more student-requested equipment for internal as well as external use:
    - web cameras
    - camcorders
    - portable, podcasting studio (hardware and software)

- handheld MP3/video playback devices (e.g., iPod Touch)
- myvu glasses for iPod videos
- Waccom tablets

- we would like to introduce a working federated search engine
- we would like to increase the opportunities for group projects / learning using the laptops
  - enable and facilitate Google apps e.g., documents, gmail, chat, etc.
  - create a video on how students can collaborate together via Web-based applications
  - explore desktop / laptop based Web conferencing
    + Yugma
    + OoVoo
    + Saba Central
    + Elluminate Live
    + Adobe Acrobat Connect Professional
    + vRoom
    + MSN or GoogleTalk
  - lend Web cameras and microphones to support this effort
- we would like to meet some of the demand for long-term external loans of laptops by loaning either small factor laptops or loaning the previous generation of library-acquired laptops until they are no longer repairable.

User Interfaces

- we will include the Firefox browser on all workstations. Too many issues have arisen with Internet Explorer, and Firefox is gaining in popularity.
- we will include Internet Explorer 7 on new laptop and desktop workstations
- we will continue to deploy XP over Vista
- we would like to install iMacs to replace most desktop workstations.

Mobility

- we would like to increase opportunities for expanding mobility:
  - utilize ultramobile or tablet PCs in the library
  - use Google forms via the iTouch, ultramobile or a tablet PC to do realtime quizzes and polls to support library instruction
  - use an iTouch, ultramobile or tablet PC as the platform for a self-guided tour of the Sawyer Library.

Instruction

- we would like to make available our information skills tutorials in a multiplicity of user formats:
  - YouTube
  - embedded Flash within a Web page
  - iTune University on workstations and video-based portables such as iPods or other MP3 devices
  - Blip.tv
- we would like to introduce portable devices to enable library instruction to leave the instruction room and “go to the source.”

Open Source

- we would like to explore migrating to open source:
  - our integrated library system (next generation catalog)
  - our internal calendaring (replace WebExOne calendar)
  - office productivity tools

  and explore providing via open source:
  - an institutional repository application
  - an integrated application that would facilitate group-based online collaboration such as Microsoft Office Live
- we would like to include open source applications on the laptops. Examples include:
  - PDF Creator (Sourceforge.net)
  - Audacity (SourceForge.net)
  - GimpShop (Gimpshop.com)
  - Open Office (openoffice.org).

Staff Productivity

- we will replace the desktops at the Circulation desk with "all in one" workstations so as to reduce the problem the mini-towers are experiencing with overheating because of the side-by-side chassis location within the wooden desk
- we would like to explore RFID technology to facilitate annual collection inventory
- we would like to add a full-time computer technician to our staff
- we would like to add a full-time professional librarian to our staff to manage the daily lifecycle for the electronic databases and their complex and ever-changing contents.

Public Relations

- we would like to use Jalbum (or equivalent) to create albums of photographs of the interior of the library for Web-based display
- we would like to create a video-based tour of the Sawyer Library for external as well as internal viewing.

Possible Pilot Projects

- we would like to deploy multifunctional convergent technology as often as possible, rather than single function technologies -- such as a PDA with a graphics calculator, or a handheld video-playback unit with WiFi
- we would like to deploy technology that takes advantage of mobility such as an iTouch to take notes, take photographs, record podcasts, and address other student learning needs
- we would like to consider an e-book device, but feel that a standard has yet to evolve. We want the device to support:
  - uploads of any e-book content (not a proprietary format) from a multiplicity of sources
  - a color screen
  - graphs and images within the text
  - taking notes with a stylus that may later be uploaded to personal workstation
  - filling out forms.
- we would like to explore fee-based print on demand within the library, or partner with a vendor to study its acceptance and use

- we would like to explore active and tactile learning through mobility using ultra mobile or tablet PCs within the library's instruction program
- we would like to explore the concept of an externally-hosted Institutional Repository. We expect in the next two years that the University will need to create such an institutional repository for faculty files. Hosted products include Open Repository (openrepository.com).

Mildred F. Sawyer Library							
Computer Technology Replacement Schedule							
revised: 2008 June 23							
Function	How Many	Ideally Replace					Notes
Student Laptops	55	every other year					heavily used by students
Library Instruction	25	every three years					
OPACs	9	every other year					recruitment and retention
Apple iMac for iTunes	1	reuse retired Admin workstation					
Research workstations	16	every other year					recruitment and retention
NESAD workstation	1	every other year					recruitment and retention
Student printing workstations	2	reuse retired workstations					
Staff workstations (dedicated)	29	every three year					
Public desk workstations	6	every other year					
Total units	144						
Fiscal Year	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	Estimated cost / unit
Student Laptops	55		55		55		plan on $1,300 / unit
Library Instruction			25			25	plan on $1,100 / unit
OPACs		9		9		9	plan on $1,400 / unit
Apple iMac for iTunes							reuse retired workstation
Research workstations		16		16		16	plan on $1,500 / unit
NESAD workstation	1		1		1		plan on $1,800 / unit
Student printing workstations							reuse retired workstations
Staff workstations	2	27		2	27		plan on $1,500 / unit
Public desk workstations		3	3	3	3	3	plan on $1,200 / unit
Total by FY	58	55	84	30	86	53	
Estimated FY cost:	$71,500	$80,700	$104,400	$43,200	$117,400	$67,700	